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ABSTRACT

Parent training on a daily basis has a positive effect on the number of verbal interactions between mother and infant. However, parent training did not seem to be a factor influencing the social-emotional and physical development activities of the teenage mothers in this study. Three groups of teenage mothers were observed with their infants in two different sessions. Group A participated in daily parent training classes. Group B received weekly parent training at home, and Group C received no parent training. The weekly training had no effect on the number of interactions in either the verbal or nonverbal areas. However, the factor that had the most effect over and above the training of the mother was her age. The older the teenage mother, the more verbal interactions she had with her child. (BP)

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ABSTRACT

EFFECT OF PARENT TRAINING ON TEENAGE MOTHERS

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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ABSTRACT

This was a study of teenage mothers and babies in the rural areas of South Carolina. The mothers were observed for the purpose of measuring the verbal and non-verbal interaction with their babies. One group of mothers had received parent training in a center on a daily basis; one group had received parent training in their homes on a weekly basis; and the third group had received no training. It was found that the teen mothers who had received training on a daily basis had more interactions with their infants than the mothers in the other two groups.

However, those who received training on a weekly basis at home did not have more interactions than the control group. As it happened, the weekly group was almost a year younger on the average than either the control group or the group with daily training. It seemed that age was a factor in the relationship of mother and child.

Other factors that seemed to have an effect on the mother-child relationship were the presence of extended family members in the home and the television which was constantly playing.

The findings indicate that parent training can have an effect on the relationship of the teenage mother and child.

Since the number of teenage pregnancies is increasing and these young mothers are for the most part keeping their babies, it was recommended that programs to train young people in the skills of parenting should be a part of the school curriculum.

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CHAPTER I

INTRODUCTION

Man is born as a biological being but he becomes a social being through the process of socialization. Communication is an essential component of the socialization process. The nature of communication varies with factors which include geographical area, racial characteristics, educational attainment, and financial status to mention a few. In view of this diversity of factors which influence socialization, it tends to follow that some infants will have limited opportunities to acquire linguistic skill.

Studies by Elardo, Bradley, and Caldwell referred to later in this paper show that the first thirty-six months of a child's life are the most crucial to his development of cognitive and linguistic abilities. When stimulation and mutual response of mother and infant have been inadequate or totally lacking, the deprivation seemed to accumulate, but did not become evident until about twenty-four to thirty-six months. At this age it is almost impossible to make up completely for the deprivation of the most important months of the child's development. (25:75) (16:268).

Teenage mothers appear to be the least able to provide adequate stimulation to their infants. The added

factor of there being little evidence of developmental delay until twenty-four to thirty-six months adds to the difficulty of educating these adolescent mothers to the necessity of providing stimulation and mutual verbal response to their infants. The typical adolescent's reluctance to heed the suggestions of adults is compounded by motherhood. The infant can suffer irreparable harm unless the teen mother and her infant grow together in a very stable and nurturing environment. It is this that is affected by the varying factors of educational attainment, financial status, geographical area and racial characteristics.

The Problem

The teenage period is a time of stress and strain for Americans. It is also a time when many females will experience premarital pregnancy. These pregancies create many problems for the teenage mother. First, there is the problem of becoming an adult and next, there is the problem of assuming the role of a parent. Amidst these problems there is the possibility that the infant will be neglected. This range of neglect extends from verbal interaction to economic deprivation.

It was this neglect of verbal interaction by teenage mothers with their babies, observed by the researcher and other staff of St. Mary Human Development Center during three years of working with these young mothers, that led to the present study.

While the entire range of neglect has undesirable consequences, it can be concluded that many mothers, especially teenage, rural, Black mothers, do not interact or respond verbally with their infants. Since infancy is a crucial time in the development of language as well as overall cognitive development, this lack potentially will have a deleterious effect on later educational ability.

According to the National Center for Health Statistics, in 1975 there were nearly 600,000 births to teenage mothers throughout the country representing nineteen percent of all births that year. Though birth rates to women eighteen and over have declined in the last ten years, rates for women fifteen to seventeen years old have increased slightly from 35.8 births per one thousand women in 1966 to 36.6 births in 1975. Not only has the rate of childbearing for young teenagers increased, but the number of infants born to mothers fifteen to seventeen years old was 227,270, an increase of 21.7 percent from 1966. (44:13-14).

A 1976 study at Johns Hopkins University by Zelnik and Kantner showed that 93.3 percent of the first live infants resulting from first conception of unmarried mothers fifteen to nineteen years old were still with their mothers. (62:14).

These adolescents are ill-prepared for motherhood physically as well as psychologically. Their children are at risk for normal development. Many infants are born prematurely due to the youth of their mothers. There is the

danger of malnutrition for both the young mothers and the child. In 1970, 95.7 percent of mothers fifteen to seventeen years of age were unmarried and 90.6 percent of these mothers had less than a twelfth grade education according to the Monthly Vital Statistics Report. Also, there was the added danger of inadequate pre-natal care since 69.1 percent of this age group received no pre-natal care in the first trimester of pregnancy. (44:1-14).

As in other parts of the country, the rural areas of South Carolina have had this problem. According to Children and Their Families: A Statistical Profile, in both Beaufort and Jasper Counties in 1975, twenty-five percent of all births were to unmarried teenage girls, higher than the national rate of nineteen percent. (19:17-27). This is not a new problem, just an increasing one both in numbers and in the implications the problem has for the future.

Many of these young mothers, according to Vincent, some as young as eleven, are children of teen mothers and they in turn had teenage mothers, and on and on. (60:661). At some point one must stop to look at the implications for these present children who will live in the last quarter of the twentieth century. They are entering a totally different world in which they have a right to live in a fully human way using the advances in technology and social sciences rather than being manipulated by them. From the moment of birth, infants have a right to stimulating influences that can enable them to develop to their fullest potential.

How does a thirteen year old, without training and

support and still a child herself, realize the importance of interaction and response with this infant? Usually, this baby becomes another member of the family--a very loving and caring family--but a family in which the young mother is really not prepared to give the individual attention a mature, knowledgeable mother can give a child.

Oral language ability is an essential part of the cognitive development of the young child. It starts from the moment of birth and with the first loving response of the mother to her baby. This almost intuitive talking to and responding to the baby's first sounds and non-verbal expressions is at the root of all language and cognitive development. In its absence there is a void that can never really be filled.

According to Franklin, during slavery Negro women were forced into cohabitation and pregnancy by their masters. There was little time for child-rearing so the mothers did not develop much attachment for their children. The children were reared by others and it was a struggle keeping the family together. (27:202).

Practices such as this die a slow death in the context of the extended family. A baby born today will be twenty-two when the year 2000 dawns. Will it be the beginning of a fruitful and exciting life for him or a fruitless search for a lifestyle and job he can never attain?

Purpose

The purpose of this study was to ascertain whether it

is possible, through training, to change the behavior of economically disadvantaged, rural, teenage mothers toward their babies. An important outcome will be to raise the consciousness of people in the local community as well as throughout the country to the necessity for, and the viability of, such training. Ultimately, this training may begin to eradicate the root cause of the severe learning problems of children who are born into this deprived environment.

Rationale

Child-mothers unprepared for the responsibilities of parenthood is a complex and deep-seated problem. It seems that a practical preparation for mothering would help these young women become more secure in appreciating themselves and their babies and thus better prepared to respond to their infants, imitating their sounds and facial expressions and thus sustaining the infant's gaze for a longer time. According to Field, this is the beginning of language and cognitive development and part of the whole bonding process. (26:767).

It would seem then, that if a young mother understood the importance of these first interactions with her infant, the subsequent interactional relationship would happen more easily.

Nature of the Study

This study was planned to explore the area of mother-infant interactions. The area is one with limited research as was indicated by a computer search of five data banks (see

review of related literature). As is true of all exploratory research, this investigation was couched, to a large extent, in the observations of the researcher along with an instrument of mother-child interactional behavior (see Appendix A, page 63).

This study was designed as an experimental endeavor using three groups of young mothers, one of which was a control group. The study used a listing of behaviors to observe the effects of parent training on these teenage mothers.

Significance of the Study

This study was concerned with what appears to be the root cause of learning problems in children from deprived environments; i.e., the lack of proper infant stimulation particularly in the verbal and non-verbal mother-child interactions. It could very well raise the consciousness of educators to the importance of placing an emphasis on the infant and the ability of his mother to begin his verbal and cognitive development.

The growing numbers of teen mothers mentioned above presents a national problem that needs to be addressed on that level. Since the 1960's we have spent millions of dollars on remedial and compensatory education. Yet it seems we still have high school graduates that are functionally illiterate.

Meeting a child's developmental needs starting in the first months of life and continuing through the pre-school years will hopefully obviate the necessity for large scale

remedial programs in the future. It will enable the child to be ready to assimilate and respond to the education presented in the first years of school. Hopefully, this approach will enable our present infants to develop to their fullest potential.

Limitations

This study was limited to mothers whose ages ranged from fourteen to nineteen years and who lived in Beaufort and Jasper Counties, South Carolina. They were selected from the lower socio-economic bracket of the rural Black population of these two counties.

The behavior observed and recorded was only that listed in the "Inventory of Mother-Infant Interactional Behaviors" (see Appendix A, page 63) developed by the researcher. It did not include other related parenting skills. The emphasis of the study was on the mother in those areas specified in the study behavior inventory.

Summary

We are faced nationally as well as in Beaufort and Jasper Counties, South Carolina, with a growing problem of infants deprived of adequate mothering. The effects of this deprivation can be life-long for the infant, and will be, unless timely intervention prepares these adoloscent mothers for this adult responsibility.

As the numbers of young mothers increase, the magnitude of the problem throughout the country will increase. In 1996 those 600,000 or more babies born to teenage mothers in

1978 will be young adults in the job market, in higher education, or very possibly mothers themselves. In 2018 they will be forty--an age of leadership and responsibility. Are these babies going to have the initial cognitive development and overall stimulation to grow to the capability of assuming responsibility for a family and for taking their place in a world community of the twenty-first century?

CHAPTER II

LITERATURE REVIEW

A review of the recent literature included as much of the research as possible that had been done in the specific area of the current study. In the interest of being thorough in researching the literature available on parent training programs for rural teenage Black mothers, a computer search of five data bases was done. This search revealed that there were no documents directly related to this particular area.

A further review of the literature revealed one program for teenage mothers and infants--YMED in Syracuse, New York. (48:825-34). Information available on the effects of this program was limited. Also, this program involved urban teenagers and their infants, not rural teenagers. It appeared that the results of this study of the effect of parent training on rural teenage Black mothers will be a significant addition to the literature in this field.

Many of the developmental stages of the child and mother are common to all children and mothers irregardless of the environmental factors or of the age of the mothers. Hence, this review of literature was concerned with three major areas that seemed to touch on some of the factors that are

operative in the child and the mother-child relationship.

Consideration of related literature was presented in three main categories. The first section presented some of the recent research in the area of cognitive development and language development. The following section discussed mother-infant relationships along with the environmental and cultural influences that affect this relationship. Finally, this study included some recent programs in parent training.

It is hoped that the information in these three areas, though not directly related, will shed some light on the problem of training rural teenage parents to adequately develop their infants to their full potential cognitively and linguistically.

The concentration of the study was to use the most recent literature available. Since much study of disadvantaged children was done in the sixties and the study has diminished considerably since that time, it was necessary at times to make use of these studies. Much of the present research has had its basis in the works of Piaget, Bayley, and Gesell; therefore, something of their writings as well as the work of Franklin were included as their scholarship appeared to transcend the years.

Cognitive and Language Development

Recent studies by Sterman, McGinty, and Adinolfi have emphasized the fact that nutritional deprivation of mothers during pregnancy have profound effects on the growth of the

brain, especially the parts that mature briskly during infancy such as the cerebellum. If this deprivation continues to the extent that the cell number is reduced, rather than the cell size, the effect is irreversable. (58:365).

Birch pointed out that severe nutritional deprivation pre- and peri-natally contributes significantly to depressed intellectual level and learning failure. It seems that a lack of sufficient stimulation along with the malnutrition is the actual problem we must deal with in order to change the condition of the disadvantaged children. (11:37).

Along those same lines it was pointed out by Crider that both the adolescent mother and the infant run the risk of malnutrition since before the maternal process of physical maturation is complete the fetus and the mother compete nutritionally. In addition to the risk of malnutrition, there is also a high incidence of mental retardation, epilepsy, cerebral palsy and other congenital anomalies among children of adolescent mothers. (23:6-7).

With all these physical risks present in the infant of the teenage mother it seems that it is even more imperative that these young mothers understand the necessity of stimulating and responding to their infants even if the infants do not initiate the interaction.

Richardson stated that, "Since the most crucial and rapid learning is in the neo-natal and infancy period, this is where the education intervention must begin." He added that an important part of this is mutuality; i.e., when

mother and baby reinforce each other. However, with a high risk infant the mother might not be stimulated by the infant, thus making this mutuality less likely to occur. (54:168).

Lewis and Rosenblum did a study on the contingency relationship and the frequency of maternal responses to infant behavior. In support of this, Lewis and Rosenblum added:

> The data consistently indicated that there is a positive correlation between maternal response to infant behavior, such as verbalizing and crying, on the cognitive development of the infant as measured by response decrement. Furthermore, the correlatiors indicate that the latency of the maternal response and contingency of maternal response (i.e., not whether she stimulated the infant, but whether she was stimulated after S's behavior) were important variables in these interactions. (41:90).

It has become increasingly evident that the neo-natal period is of the utmost importance in the development of the cognitive potential of infants.

In the first days of life much of the communication between mother and infant takes place through the eyes. Gesell has told us that the eyes are fashioned as early as the fifth week of the prenatal period with the optic cup developing into the optic nerve which terminates in the cortex of the brain. He added that vision is so fundamental in the growth of the mind that the baby experiences his world with his eyes long before he touches it with his hands. (28:17).

In addition, Bell emphasized that environmental factors have much to do with nurturing intelligence and parents have a heavy responsibility for developing the intelligence of infants. (10:13-14). When that parent is an adolescent she needs so much support to carry out this heavy responsibility.

Gesell added, "The first year of life offers a mother a golden opportunity to become acquainted with the individual psychology of her child." (28:87).

We must consider the tie between social, emotional, and cognitive behaviors. Seltzer believed that we too often separate these behaviors contrary to their reality of being inseparable. Consideration of this relationship of social and emotional behaviors to cognitive development might help us understand how disadvantaged environments do impair young children. (55:249).

The whole area of cognitive development includes that of language which is integrally related to the total development of the child along with the social and emotional behaviors.

In reminding us that crying is the first use of the voice, Piaget stated, "Phonation is evidenced at birth by the cry of the newborn child and his whining in the first weeks." (50:76).

Later, in another of his writings Piaget posed the question of whether or not "Mama" is not a prolongation of the act of sucking and would at one and the same time be a command to the only one who can satisfy the desire as well as be a soothing element. (51:34).

Brazelton suggested that the feedback of his own sounds is for the infant one of the most important reinforcers to early speech. (13:133).

A mother must understand the necessity for this

feedback of the infant's own sounds in order to give him this important reinforcement.

Kagan told of a study done in the 1960's in which it was shown that babbling to human faces is more stable for girls during the first year and better predicts future cognitive development for girls than for boys. This seemed to fit in with her more stable physical growth and psychological growth dimensions during infancy and later childhood. (35:116-17).

In another study, Bayley found that, on the contrary, mothers' treatment of infants in the first three years had lasting effect on their sons' intelligence but little or no preservative effect on daughters' intelligence. This Berkeley Growth Study started with babies born in 1927-29 and continued for more than thirty-six years. It also found that girls' I.Q. was more related to parental ability while boys' I.Q. proved to be related more to early maternal behaviors. (6:184-89).

Still another study by Cohen and Beckwith concluded that:

> Maternal language behavior to boys and girls was not different and does not suggest any early input reason for language precocity in girls. Nonetheless, differential maternal verbal behavior as a function of maternal education and ordinal position did suggest reasons for increased language skills in firstborns and in infants of a higher educated mother. (21:372).

All three of these studies, though differing in their conclusions as to whether maternal language has more effect on boys or girls, emphasized the impact of maternal language

behavior as being probably the most important factor in the development of the child's language.

Recent research done by Mann and Hurt indicated that infants show "prototype" conversations with their parents during the first two months and that the patterns of sound production reflect the primitive state of the vocal tract. (43:20).

Accordingly, Gordon instructed new parents to dialogue with the baby during the routine tasks of diapering, bathing, or holding the baby. He explained that this promotes the infant's speech soundmaking and begins language development. (32:8).

Language is so important that "The mother's first words when she shows her child objects and names them, have a decisive influence on the formation of the child's mental processes," according to Olim. He subsequently added that the mother's style of communication, inhibitory and input-control techniques as opposed to logical considerations and consequences, can lead to a low level of differentiation and complexity in the child's linguistic and cognitive structure. (46:217-22).

The role of language in the cognitive development of the infant is further discussed by Macnamara. His thesis basically was that the infant first determines the meaning of the idea being conveyed to him and then works out the relationship between the language and the meaning since at that time the infant's thought is more developed than his language.

This, of course, pertains to the beginning of language learning. Later the child uses language to expand his thinking. (42:1).

The mother plays a major role in the development of this language as, according to Nelson, the mother determines in a large part the specific content of the child's cognitive constructs as well as their form. She accepts or rejects her child's language proposals and selects those parts of the world with which the child comes in contact. (45:3-5).

Finally, Allen stated that since language is an all pervasive human activity, unrectified language defects may prevent the adequate development of skills as subsequent levels of the language pyramid. (2:45).

In summary, it is evident that the development of language during the pre-verbal or infancy state is essential to the full cognitive development of the child due to the interrelation of thought and language and language and thought. The most important person in the development of language is the mother who has a bond with the infant that can be totally replaced by no one, however capable that person may be.

Mother-Infant Relationships

The relationship between mother and infant has actually been developing all during the pre-natal life of the child but becomes overt and controllable by mother and child from the first moments after birth. Psychologists

have told us that the first year of a baby's life has an enduring impact on his later development. Spezzano and Waterman feel that along with this impact, the baby's first day, even his first hour, is just as crucial to the emotional bond that forms between mother and child.

Nature has provided the perfect setting for this bonding in the alert state of the non-anesthesized infant during his first hour. His eyes are open, can jerkily focus, especially on his mother's face and eyes, and turns his head at the sound of a human voice. (56:110-13). What more perfect way for a mother to begin a relationship with her child?

Brazelton was concerned about the use of drugs during childbirth because of the subtle ways they affect the earliest experiences of the mother and infant. (14:23).

Since consistent patterns of infant-mother relationship can begin in the first days of life, Osofsky felt that more studies of the long term stability and predictability of these patterns should be done. (49:1145).

A study such as mentioned above would add to the study in which Beckwith, Cohen, Kopp, Parmelee and Marcy found that patterns established at one month influenced performance at nine months. They concluded that:

> Wheras only contingency to vocalization has been found to increase vocal output, contingency to distress, contingency to vocalization, and contingency to gaze all acted to increase acquizition of sensorimotor skills. (7:585-86).

Bakeman and Brown supported the concept of the facili-

tating effect that mother and infant have on each other and stated that in early infancy the mother, rather than the infant, "drive the dyadic system.

Also emphasizing the mother-infant dyad, Blehar and Lieberman stated that the key variable in maternal-infant interaction is sensitive responsiveness to infant behavioral cues. This changes and develops as the infant moves through different states of his development. (12:185).

Attachment of mother and infant comes about in various ways. Bell pointed out that smiling and vocalization not only promote and maintain attachment, but also maintain social interaction which is the key to socialization. (9:9).

Stern has stated that:

> The mother then, in the presence of an infant, alters her normal adult interpersonal behaviors and performs what can be called infant-elicited maternal facial, vocal, and gaze behaviors. These "unusual" behaviors make up a major part of the infant's world of social stimuli during play and may best be considered super-normal human stimuli. Mothers who cannot perform these behaviors, or who have a restricted range of such behaviors elicit less "play" from their infants. (59:195).

It appears that the most important influence on an infant is the interaction and bonding between him and his mother. Unfortunately, many mothers do not realize the importance of this interaction due to their youth, their limited education, poor or no modeling, and lack of a support system for this interaction.

The following discussion touched on the effects of a deprived environment on the mother and infant especially as it affects the mother-child relationship.

Environment seems to have a definite impact on the development of the child and especially in the style of the interaction between mother and child. Families that suffer from economic deprivation, isolation, or educational deprivation seem to be less able to enhance the mother-child relationship.

Boger concluded that most disadvantaged children spend less time in direct interaction with their parents than non-disadvantaged. This significantly affects their language and cognitive skills. In addition, rural children, especially the more isolated children, have lower measured intelligence in respect to verbal items. This does not necessarily reflect their learning ability. He also mentioned that the child's ability to use abstractions was related to maternal language style and, more importantly, to the child's ability to abstract rather than the mother's I.Q. (13:13-20).

Hess has found that when a mother is in a home with many people, her behavior does not enhance cognitive ability. She seems to be status oriented exercising strong control with less warmth and support and so spends less time doing such things as reading to the child. On the other hand, mothers who make use of the rich resources of the home enhance the cognitive development of the child. It was evident that women do not necessarily acquire more effective techniques with age. (33:147-48).

Many of the mothers living in environments deprived in some way are teenage mothers residing in the extended family with several other adults and children. This might be the reason for the findings of Osofsky and Osofsky at the YMED in Syracuse, New York, where they observed that young mothers were strong on warmth and physical interaction and low on verbal interaction. (48:833). All of these environmental aspects seem to have an effect on the developing child.

Elardo, Bradley and Caldwell showed study results indicating that home environment measured when the infant was six months old had no relation to performance on the Bayley Mental Development Index at six or twelve months, but did relate to the performance on the Binet at three years. (25:75).

Along with this, Seltzer has suggested that more research is needed into the causes of the appearance of the cultural deprivation syndrome around the third year and not before. He agreed with Piaget that the environment has a significant role in the development of the sensorimotor schema that characterize the first two and a half years and that during that time even with minimal amounts of action and stimulation development will proceed normally. Perhaps it is that differences do not occur until enough deprivation is accumulated at about thirty-six months. (55:251-52).

Accordingly, Caldwell told of a study using the Bayley Scales of Mental and Motor Development;

Giving the revised Bayley Scales of Mental and Motor

> Development to 1,409 infants from a representative sample of the total American Population, she has established performance curves for relevant subgroups of infants between one and fifteen months of age. There were no significant differences on the mental scales as a function of social class, sex, race, or parental education up to fifteen months of age. However, on the motor scales Negro infants tended to score higher than whites, with the differences significant at most evaluation points up to twelve months of age but not thereafter. The drop that occurs for the children from lower social class backgrounds thus can be pinpointed as occurring somewhere between fifteen months and three years of age. Similar data had been reported by Hindley (1960) for a small group of British children within the age range of six to eighteen months. (16:268).

Many of the mothers and infants living in a deprived environment are Black. Since our concentration in this particular study was on rural, Black teenage mothers, it seemed important to include some studies addressed to Black mothers and children.

The language of the Black family of southeastern South Carolina and Georgia is a modified form of Gullah. Joan Baratz told us that Black English has different usage and that the Peabody Picture Vocabulary Test commonly used in testing language development is culturally biased against the Black child. Further, she has said that relating particular linguistic style with conceptual ability principally depicts a developmental lag through a tacit acceptance of white control groups. (4:10).

In stating that there is a logical and coherent linguistic system evident among Blacks in this country, Stephen Baratz argued with the trend that supposed linguistic and cognitive deficits are to be attributed to inadequate

mothering in the first few years of life. (5:4-5).

In seeming contradiction to this, Radin and Kamii stated that disadvantaged Black mothers believe that babies are helpless and need protection, but should be moved out of the baby stage as soon as possible. They are overly protective, but have little respect for the child as an individual and are impatient with listening which serves to suppress vocalization. (53:266).

Comer and Poussaint have given guidelines to Black parents as to how to best bring up a Black child in America. They pointed out the necessity for developing the mother-child bond in order not to hamper the physical, social and emotional growth of the child. They also emphasized the need for reciporcal vocalization of mother and child as important to the process of learning new words and conversation patterns. (22:28-37).

With this as a guideline perhaps many of the young Black mothers can establish an enriching environment for their children begun by the use of strong and positive mother-child verbal and nonverbal interactions.

In summary, there are more questions than answers as to the lasting effects of the deprived environment, but it seems that it is the impact of deprivation that affects the child, not that of his racial origin.

Parent Training Programs

There have been a number of parent training programs around the nation with most of them having started in the 1960's. Karnes reported on one that worked with mothers of infants from twelve to twenty-four months. The children were tested using the Binet. They showed a sixteen point difference in I.Q. from the control group. (36:926).

Boger, in discussing parent program, mentioned one at the University of Illinois in 1969. It dealt with mothers of one and two year old babies. The mothers met in weekly discussion groups along with having had home visits by a professional to help the mother meet the needs of the infant. A subjective evaluation at the end of the first year indicated an increase in positive self-concept in the mothers and that this could be an effective method of preventing learning deficits in children. (13:25).

In reporting on the findings of the DARCEE program at George Peabody College for Teachers, Gilmer found that the once-a-week home visiting program for older children four and a half to five and a half is simply not enough to effect change. However, this treatment appeared to be effective with children one to three years younger. (30:49).

Another report on this program by Gilmer stated that during the child's early formative years the family, and specifically the mother, was the most effective instrumental agent. (29:3).

Gordon described his parent-education project as

taking its basic orientation from an extension of Piaget's theory:

> Our belief is that the provision of experiences which require adaptation through accommodation will lead to modification of development and greater cognitive organization than what might be expected from purely "natural" or "spontaneous" growing up in a culturally deprived environment. (31:23).

Gordon and his team developed four series of activities to be used with each infant structured to introduce the infant to the behavior just before it should occur according to the norms of Bayley, Gesell, and Cattell. They found that the verbal stimulation exercises were an important phase of improving the mother-child interaction. (31:26).

In a later report of this same study, "Early Childhood Stimulation Through Parent Education", it was concluded, among other things, that paraprofessionals can successfully educate mothers in a home-visit program. They also found that to continue development, the training must continue. The children in the program for only the first year at two years of age lagged behind those in the program for the entire two years as well as those who were in the program only the second year. (24:209-14).

Starr concluded from Gordon's study and other studies that for the development to be continuous, the training must continue. Also, Starr indicated the problems inherent in having a set curriculum. It seemed that the mother considered the curriculum work and not play so tended not to continue the activities on her own in between sessions and after the

training was concluded. (57:166-69).

The Ypsilanti-Carnegie Infant Education Project ran an experimental home-teaching program with mothers and infants which was completed in 1974. Lambie, Bond and Weikart stated that the mothers in the experimental group evidenced significantly higher on the Bayley Mental Scale than children in the contrast group and higher, though less than significantly, than the control group. The overall rating of the experimental group was higher, pointing to the fact that helping parents to work developmentally with their infants can make a difference in both parent and child. (38:115-16).

According to Westhoff there is a Center for Teenage Mothers and Their Infants at Johns Hopkins University established in November, 1975, by the Joseph P. Kennedy Foundation. (61:64). Perhaps their findings will add more knowledge to the field.

Another parent training program for teenage mothers is the YMED in Syracuse, New York, mentioned by Osofsky and Osofsky, and referred to previously in this study. (48:833).

In summary, there have been a few parent training programs conducted in this country that have shown that it is possible to change the behavior of the mother toward her child in a positive and interrelational way. It appears that much more needs to be done in this area of human involvement. Clearly, the results of these programs and studies should be published for those who wish to expand upon their knowledge in this field.

Summary

This review has highlighted the importance of the cognitive and language development of the child beginning in the earliest months of life. At each step it was apparent that the mother played a crucial role in the development of language and intellect of her child. She accomplished this task almost entirely by her interaction and stimulation of the infant from his first moments of life. The bonding and interrelationship that developed from this interaction and stimulation will have immediate value in its beginning the cognitive development which both precedes and follows the language development. But, probably more importantly, this early development will serve as a foundation for later development in intellectual growth and language facilitation.

There is a noticeable lack of information on the relationship and effect of the teenage mother on her infant. Most of the studies concentrated on the woman from eighteen years to thirty-five years of age despite the fact that young women below this age range have children in significantly large numbers and have continued to do so at an increasing rate.

It is hoped that this study of rural, Black teenage mothers will yield definitive information on the importance of mother-infant interaction on the cognitive and linguistic development of the child.

The information gained by this review of the literature has provided a basis for the present study by pointing

out the crucial aspects of the interaction of mother and child and the possible effects of this interactions. It has shown that parent training has had an effect on older mothers; therefore, it could reasonably be expected to affect the behavior of teenage mothers toward their children. There is much more to be studied in regard to the relationship of mother and child, but perhaps this is a beginning.

CHAPTER III

METHODOLOGY

This study was designed to assess the impact of parent training on teenage mother-infant interaction. It grew out of the researcher's involvement in a parent training program for teenage mothers. Within this context, the researcher observed apparent variations in parent-infant verbal interactions. In an effort to test these observations, this study was conducted.

Focus

The study was structured around the following hypotheses:

1. Parent training for a teenage mother will increase her verbal and non-verbal interaction with the potentially disadvantaged infant.

2. Young mothers receiving the parent training on a daily basis will develop more measurable interacting behaviors than young mothers receiving training once a week.

3. Young mothers receiving the parent training on a daily or weekly basis will develop more measurable interacting behaviors than young mothers receiving no training.

The study was based upon the data collected from three different groups of teenage mothers. Two of the groups

were receiving parent training from the St. Mary Human Development Center and one group was receiving no training.

Design

The study was designed to collect data from the three groups of teenage mothers using an inventory of mother-infant interactional behaviors. (See section on Instrument.)

The actual observations of the young mothers began in December, 1977 and continued through May, 1978. Each mother and infant was observed in two different sessions. The sessions lasted from thirty minutes to ninety minutes with the average being sixty minutes. Individual circumstances determined the length of the visit. Every visit was made in the home of the mother.

Data

The data for this study were obtained from the "Inventory of Mother-Infant Interactional Behaviors". (See Appendix A, page 63). Since many of these data were qualitative rather than quantitative, no attempts were made to subject them to statistical tests of significance. Accordingly, the data were treated in terms of sub-totals and percentages for each category.

The Instrument

The instrument was developed by the researcher from information obtained from the literature reviewed in Chapter Two with more specific information obtained from Brazelton.

(45:99-266). The instrument, "Inventory of Mother-Infant Interactional Behaviors" is included in Appendix A on page 63. It was used to record the number of times each behavior was observed, or whether the behavior occurred at all.

The concentration of this study was the measurement of the amount of interaction in each of the three study groups between the mother and child particularly in the oral-aural verbal contacts. Only affirming behaviors were measured.

Pilot Study

A pilot study using the proposed instrument, "Inventory of Mother-Infant Interactional Behaviors", was conducted with thirteen teenage mothers. The purpose of the pilot study was to test the appropriateness of the instrument as to the behaviors observed as well as the reaction and cooperation of the mothers. The pilot study was conducted by five professionals and paraprofessionals, other than the researcher, in September, 1977.

The instrument appeared to measure the observable behaviors listed and the young mothers in the pilot study were able to cooperate with the observers.

An oral evaluation of the pilot study including the instrument and the procedures was done by the researcher with the observers.

Participants

The participants were identified by social service

agencies, health agencies, the school systems and the human development center. All of the young women participating in the study had an infant under two years of age.

Each young woman was interviewed for the purpose of explaining the study to her and eliciting her ccoperation. The interviewer explained that the purpose of the study is to learn more about what mothers and babies do together. It is not to evaluate what they do. The interviewer did not show the inventory to the mother, but agreed to discuss it with her when the entire study was over if she so desired. The presentation was read to each mother to assure uniformity of information. This "Orientation of Teen Mothers to the Study" is included in Appendix B on page 64.

Each mother who agreed to participate in the study was asked to fill out a registration form which included a release of information permit. This form is Appendix C on page 66).

Three groups of teenage mothers were studied. All of the mothers were Black and primarily residents of the rural areas of Beaufort and Jasper Counties, South Carolina. They ranged in age from fourteen to nineteen.

Group A was composed of eight young women who had participated in the parent training classes daily at St. Mary Human Development Center. These classes included pre-natal training, the development of the child from birth to age three, Parent Effectiveness Training (PET) and a practicum in child development which took place in and under the

supervision of the Child Development Center at St. Mary Human Development Center.

Group B was composed of eight teenage mothers who had received weekly parent training in their homes by a para-professional working out of St. Mary Human Development Center. The Portage Guide to Early Education by Bluma, Shearer, Frohman, and Hilliard was used as a basis for this training.

Group C consisted of four young mothers who had received no formal parent training.

Twenty young women actually participated in the entire study. All of the observations were done in the home to insure a relatively uniform environment for all of the groups.

The young women who were pregnant at the beginning of the study were visited initially as soon as possible after delivery, being sensitive, of course, to the wishes of the mother.

The women in Experimental Groups A and B were not observed by their parent training instructor for the sake of objectivity. For this same reason, a separate copy of the instrument was used for each session.

Four professional educators, including the researcher, observed the young mothers. Each observer was given an orientation to the use of the instrument, the procedures for notifying the young mother, and the length of time for the visit.

After each visit the researcher discussed with the

observer the written information on the instrument for the purpose of clarification and completeness of information.

The Study Groups

Each of the twenty Black teenage mothers in the study had at least one child. As previously mentioned, the participants were divided into three groups: A. those who had received daily parent training in the St. Mary Human Development Center; B. those who have received weekly parent training in the home from the staff of St. Mary Human Development Center or Beaufort/Jasper Comprehensive Health Services; and C. those who have received no parent training other than the modeling of family members. For the purposes of this discussion these will be referred to as Group A, Group B, and Group C.

The subjects were from the low income segment of the rural area with the exception of one mother living in a small city. The two counties, Beaufort and Jasper, from whom the young mothers were identified, are located in the southern-most part of South Carolina on the Atlantic coast. Beaufort County has sixty-two islands joined by roads and bridges that cross miles of marshland and water. Jasper County has a brief shoreline with some marshes but much of the county is taken up in hunting clubs and tree forests. Therefore, the rural people of these two counties often live very isolated.

The subjects ranged in age from fourteen to nineteen

years and resided largely in the extended family setting.

TABLE 1

MOTHERS BY STUDY GROUP AND
TYPE OF LIVING ARRANGEMENT

Living Arrangement	Total	Groups* A	B	C
Alone	1	1	0	0
Extended Family	17	5	8	4
Husband	2	2	0	0
N =	20	8	8	4

* For convenience the following code will be used to denote the groups:

A = experimental with daily training

B = experimental with in home weekly training

C = control with no training

The only parent training program for teenage mothers in these two counties was done by St. Mary Human Development Center, Inc. Their training program consisted of center-based daily training and home-based weekly training. Due to funding problems this program was closed in December,

1977. There was no on-going training during the course of the study.

Collection Process

Four professionally trained women including the researcher conducted the observations. All of these professionals were on the staff of St. Mary Human Development Center and had been involved in some way in the parent-training program. One person was unable to continue in the study after the program was closed so most of the observations were done by three people. Only one person at a time observed a mother to keep the atmosphere as free of tension as possible. Care was taken that the observer was not assigned a young mother to whom she had given parent training instruction.

Even though the orientation (see Appendix B, pages 64-65) was given to each participant prior to her agreeing to be a part of the study, many problems arose.

The young mothers did not return either postcards or telephone calls to set up appointments. On several occasions the observers went to homes at appointed times to find no one there. It was found more effective to choose an appropriate time to visit and go unannounced. The young mothers seemed comfortable with this method.

The interview was divided into two sessions as it became evident that to force a two hour session on them was inappropriate due to the infants' needs and the various

family situations. Also, one short session seemed not to always give an accurate picture of the mother's interactions with her infant. Again, circumstances involving the baby, the mother, and extended family and friends in the home had an altering effect on this interaction.

The average total time spent in observations was 1.57 hours with the range being from one hour to three hours. (See Table 2, Appendix D, page 68). Interviews were often shortened by the mother herself who either was not at home when the observer arrived, left the home earlier than planned, or, after a short time, ignored the infant and the observer to become totally engrossed in the television. On several occasions the infant was sleeping when the observer arrived or fell asleep early in the observation period. Often friends or family members totally interrupted the observation preventing it from continuing.

Other conditions affected the environment of the observation. In most of the homes the television was playing the entire time with the mother's attention diverted to it in varying degrees. Since seventeen of the twenty mothers lived with the extended family (see Table 1, page 35), there were usually other family members present. Often these adults interacted frequently with the infants. In some homes much of the interaction with the babies came from the mother's siblings. Many of the mothers lived in very crowded home situations. In two instances there were more than one teenage mother observed in the study--one of these

families had three teenage mothers. Some of the homes did not have running water or indoor bathrooms. In most of the homes there were no toys for the child to play with.

Mothers and Babies

The average age of the mothers was 16.85 years with the mothers in Group A having an average age of 17.37, Group B, 16.25 and Group C, 17 years. (See Table 3, page 69). Further discussion of the effect of the mothers' age on the mother/infant interactions can be found in Chapter IV on page 43.

Some of the young mothers had more than one baby. The observer counted her interactions with both children as the mother had to divide her time and attention between the two. The average number of children was 1.55. (See Table 4, Appendix D, page 70). One mother had three children; nine had two children; and ten, had only one child. In several cases the observer noted that most of the interaction was with the younger child and the older child was either ignored or received non-affirming communication from the mother.

The average age of the babies was 13.6 months. (See Table 4, Appendix D, page 70). Four of the young mothers were pregnant at the beginning of the study and were observed when their babies were a month old or younger.

Parent Training

The mothers in Group A received an average of .87

of a unit of credit in a parent training course. (See Table 5, Appendix D, page 71). The range of credits was from 1.75 of a unit to .25 of a unit. One unit equaled 180 classes of fifty minutes. The description of the classes was discussed earlier in this chapter.

The young mothers in Group B received an average of 12.25 weekly parent training visits with a range of five visits to twenty-two visits. (See Table 6, Appendix D, page 72). A visit was supposed to have lasted from one to two hours. The course of study was also discussed earlier in this chapter. The researcher discovered during the course of doing the observations that some of the information recorded regarding the number of visits and the content of the parent training lesson was not accurate and tended to be exaggerated. This is a possible factor in this group's having had a low number of interactions.

Other Factors

All but two of the young mothers were not as yet married. South Carolina does not grant welfare assistance to intact families. Twenty percent of the mothers were high school graduates.

Since these young women were still in their adolescent stage, they were a combination of child and adult. Motherhood demands adult responses and responsibilities from them which must cause many bewildering moments for these young mothers. On at least three different occasions the

researcher observed an almost instantaneous switch from adult to child. This sudden change took place during actual mother-child interaction.

The Inventory

The "Inventory of Mother-Infant Interactional Behaviors" was divided into two main divisions--Language Facilitation and Social-Emotional and Physical Development Activities. Both parts were observed at the same time. (Appendix A, page 63).

In the language facilitation section the observers looked for behavior of the mother in which she actually verbalized to the infant or evoked verbalizing behavior from the infant. The observer marked down each one of these behaviors as it occurred in the appropriate space. Items one to four and six to eight are different types of behavior that would have been expected to occur at some time during the observation period. The six sub-sections of item five and items nine and ten represent different occasions that may or may not all happen during the period of observation.

The reason for counting each of these verbalizing behaviors is to have some way of measuring the amount of affirming verbalization of the mother with her infant. The researcher had observed in her working with the young mothers during the previous four years that there seemed to be little talking to the infant, or responding to the

infant's pre-verbal sounds. Also, it seemed that most of the verbalizing with the toddler was in the form of negative or positive commands.

Much of the literature points to the importance of these verbal interactional behaviors in the cognitive and language development of the child.

The social-emotional and physical development activities were activities that either happened or didn't happen during the observation period. The observer wrote either "yes" or "no" after each one at the end of the period of observation. Items one and two would enhance the physical development while items three through seven would add to the social-emotional development of the infant.

A place on the inventory for comments enabled the observer to note any circumstances that would seem to have any effect on the interactional behavior of the mother.

Data

The data were tabulated directly from the "Inventory of Mother-Infant Interactional Behaviors". (See Appendix A, page 63). These data will be discussed in Chapter IV in terms of the individual mothers as well as in terms of the groups. The two divisions of the inventory will be dealt with separately. Next the data will be examined as to whether or not they support the hypotheses. Finally, the data will be presented in the form of tables which will tabulate the information gathered in regard to the groups

studied.

Summary

This study of mother-infant interactions was concerned with twenty Black teenage mothers divided into three groups according to the kind of parent training received.

These interactions seemed to be a crucial aspect for the continued normal development of the infant and should have been studied as to the impact of parent training on these young mothers. Hence, three groups with different degrees of training or no training were studied.

The methodology was designed to keep variables to a minimum in order to focus on the principal problem of teenage mothers and their ability or inability to interact verbally and non-verbally with their infants.

Four professionals observed the young mothers and used an "Inventory of Mother-Infant Interactional Behaviors" to record the data observed.

Many environmental circumstances were brought to light that possibly had some effect on the behavior of the mother with her infant.

The data obtained in this study will be discussed in more detail in the following chapter.

CHAPTER IV

ANALYSIS OF DATA

This study consisted of a set of observations of twenty Black teenage mothers who lived in the rural areas of Beaufort and Jasper Counties, South Carolina. The instrument used to record the interactions between mother and child was an "Inventory of Mother-Infant Interactional Behaviors". (See Appendix A, page 63).

Each observation was divided into two sessions with the total number of interactions of the two sessions shown on Tables 7 and 8 on pages 44-47. The instrument itself contained two distinct types of interactions to record--language facilitation and social-emotional and physical development activities.

This discussion treats the language facilitation of the individuals and groups and then proceeds to treat the social emotional and physical development activities of the individuals and groups.

Tables 7 and 7A on pages 44-45 show that the range of language facilitative interactions for the individual mothers was from 9 to 114 with the average being 33.75 interactions. The total interactions of the twenty mothers was 675.

TABLE 7

LANGUAGE FACILITATION

Activity	Total	Group A								Total	Group B								Total	Group C			
		1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16		17	18	19	20
1. stimulates infant's vocalization	43	0	3	6	4	0	23	2	5	21	0	0	3	5	0	6	5	2	13	3	4	4	2
2. imitates child's vocalization	25	0	2	5	9	0	2	0	7	7	0	0	1	0	0	4	2	0	14	1	0	8	5
3. verbally praises, encourages	33	1	5	6	2	0	12	5	2	13	0	0	2	2	0	5	4	0	11	3	2	2	4
4. uses raised, loving reassuring tones	33	0	3	5	3	0	13	4	5	13	0	0	2	5	0	4	*-	2	10	3	3	4	0
5a. verbal interactions when feeding baby	32	0	1	6	5	0	9	9	2	14	0	-	-	2	0	10	-	2	1	-	-	-	1
5b. verbal interactions when diapering baby	11	-	2	3	5	1	-	0	-	2	0	-	-	-	0	-	-	2	-	-	-	-	-
5c. verbal interactions when bathing baby	3	0	-	3	-	-	-	-	-	8	0	-	-	3	0	-	3	2	3	3	-	-	-
5d. verbal interactions when playing with baby	44	0	3	6	6	0	13	12	4	19	0	0	-	2	0	17	-	0	33	1	1	22	9
5e. verbal interactions when dressing baby	6	2	-	-	2	0	-	2	-	2	0	0	-	-	0	-	-	2	3	-	3	-	-
5f. verbal interactions when preparing for sleep	2	0	-	-	-	-	-	2	-	4	0	0	-	-	0	4	-	0	2	-	-	-	2
6. provides & labels sensory experiences	7	0	0	3	0	0	3	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
7. sings to or plays music for baby	8	0	0	0	3	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8. uses infant's name in talking to her	68	0	3	7	23	2	18	4	11	42	2	1	2	5	0	30	0	2	47	5	2	19	21
9. responds to baby's crying, quickly	17	0	1	4	5	0	6	0	1	11	2	1	0	2	0	3	2	1	6	-	2	2	2
10. answers baby's call	26	2	2	1	8	0	11	0	2	9	0	0	1	5	0	1	0	2	6	3	0	2	1
Totals	358	5	25	55	75	3	114	42	39	165	4	2	11	31	0	84	16	17	152	22	17	63	50

*- = no occasion to observe

TABLE 7A

LANGUAGE FACILITATION

Activity	Total 20	Group A 8	Group B 8	Group C 4
1. stimulates infant's vocalization	77	43	21	13
2. imitates child's vocalizations	46	25	7	14
3. verbally praises, encourages	57	33	13	11
4. uses raised, loving, reasurring tones	56	33	13	10
5a. verbal interactions when feeding baby	47	32	14	1
5b. verbal interactions when diapering baby	13	11	2	-
5c. verbal interactions when bathing baby	14	3	8	3
5d. verbal interactions when playing with baby	96	44	19	33
5e. verbal interactions when dressing baby	11	6	2	3
5f. verbal interactions when preparing for sleep	8	2	4	2
6. provides & labels sensory experiences	10	7	0	3
7. sings to or plays music for baby	8	8	0	0
8. uses infant's name in talking to her	157	68	42	47
9. responds to baby's crying, quickly	34	17	11	6
10. answers baby's call	41	20	9	6
Totals	675	358	165	152
Average	33.75	44.75	20.63	38

TABLE 8

SOCIAL-EMOTIONAL AND PHYSICAL DEVELOPMENT ACTIVITIES

Activity	Total	Group A								Total	Group B								Total	Group C			
		1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16		17	18	19	20
1. provides kinesthetic stimulation	4	-	-	+	+	+	-	+	-	3	+	-	-	-	-	+	-	+	2	-	-	+	+
2. provides large muscle play	3	-	-	+	-	-	+	+	-	1	-	-	-	-	-	+	-	-	3	-	+	+	+
3. smiles to bring forth a smile	6	-	+	+	+	-	+	+	+	5	-	-	+	+	-	+	+	+	3	+	+	+	-
4. responds to the infant's smile	6	-	+	+	+	-	+	+	+	5	-	-	+	+	-	+	+	+	3	+	+	+	-
5. laughs with child	5	-	+	+	-	-	+	+	+	3	-	-	+	+	-	+	-	-	2	+	-	+	-
6. holds baby while feeding bottle	4	n/a	-	+	+	+	-	+	-	3	+	-	+	-	-	+	-	-	1	-	-	+	-
7. provides physical, loving contact	7	-	+	+	+	+	+	+	+	6	+	-	+	+	+	+	-	+	4	+	+	+	+
Total yes	35	0	4	7	5	3	5	7	4	26	3	0	5	4	1	7	2	4	18	4	4	7	3
Code: + = yes - = no																							
Percent					62.5%									46.4%								64.2%	

TABLE 8A

SOCIAL-EMOTIONAL AND PHYSICAL DEVELOPMENT ACTIVITIES

Activity	Totals	Group A 8	Group B 8	Group C 4
1. provides kinesthetic stimulation	9	4	3	2
2. provides large muscle play	7	3	1	3
3. smiles to bring forth a smile	14	6	5	3
4. responds to the infant's smile	14	6	5	3
5. laughs with child	10	5	3	2
6. holds baby while feeding bottle	8	4	3	1
7. provides physical, loving contact	17	7	6	4
Totals	79	35	26	18
Percents		62.5%	46.6%	64.2%

Group A (center based daily training) had a total of 358 interactions with an average of 44.75. The range of interactions in this group was from 3 to 114.

Group B (home based weekly training) had a total of 165 interactions with an average of 20.63; the range was from 0 to 84.

Group C (no training) had a total of 152 interactions with an average of 38; the range was from 17 to 63.

There were seven items to be recorded in the social-emotional and physical development activities. (See Tables 8 and 8A, pages 46-47). The items were recorded as either yes or no; i.e., the activity either was performed by the mother and child during the visit or not.

Tables 8 and 8A pages 46-47, show that there were a total of 79 out of a possible 140 interactions or 56.4%.

Group A had 35 out of a possible 56 interactions or 62.5%. Group B had 26 out of a possible 56 interactions or 46.4%. Group C had 18 out of a possible 28 interactions or 64.2%.

The Hypotheses state:

1. Parent training for a teenage mother will increase her verbal and non-verbal interaction with her potentially disadvantaged infant.

2. Young mothers receiving the parent training on a daily basis will develop more measurable interacting behaviors than young mothers receiving training once a week.

3. Young mothers receiving the parent training on

a daily or weekly basis will develop more measurable interacting behaviors than young mothers receiving no training.

In the language facilitation, Group A had an average of 44.75 interactions while Group B had an average of 20.63 interactions. In the social-emotional and physical development activities, Group A performed 62.5% of the activities while Group B performed 46.4% of the activities. Therefore, it would seem that the study supported hypothesis two in both the verbal and non-verbal interactions.

However, Group C had an average of 38 language facilitative interactions compared to Group B's average of 20.63 interactions and Group A's average of 44.75 interactions. In the social emotional and physical development activities, Group C performed 64.2% of the possible interactions compared to Group B's 46.4% and Group A's 62.5%.

It would seem that hypothesis three is not completely supported by the information obtained in the study. Hypothesis one, is, also, not completely supported by the study.

This has led the researcher to look at factors other than training that has had some bearing on the number of verbal and non-verbal interactions between the teenage mother and her child.

One of these factors was age. Group A mothers had an average age of 17.37 years; Group B, 16.25 years; and Group C, 17 years. (See Table 3, Appendix D, page 69).

Tables 9 and 9A on pages 50-51, indicate that the group of mothers sixteen years old and younger had an average

TABLE 9

LANGUAGE FACILITATION BY AGE

Activity	Total	Age Group 16 or under						Total	Age Group 17										Total	Age Group 18 or over			
		1	2	3	4	5	6		7	8	9	10	11	12	13	14	15	16		17	18	19	20
1. stimulates infant's vocalization	17	4	5	3	0	0	5	35	4	6	6	0	5	2	0	4	6	2	15	2	10	3	0
2. imitates child's vocalization	17	8	2	0	0	0	7	20	0	2	4	0	0	0	0	9	5	0	9	5	2	2	0
3. verbally praises, encourages	5	2	0	1	0	0	2	26	2	4	5	0	2	5	0	2	6	0	22	4	12	5	1
4. uses raised, loving, reassuring tones	15	4	4	2	0	0	5	32	3	6	4	0	5	4	0	3	5	2	16	0	13	3	0
5a. verbal interactions when feeding baby	6	0	-	2	-	0	4	34	-	-	10	0	2	9	0	5	6	2	11	1	9	1	0
5b. verbal interactions when diapering baby	0	0	-	-	-	0	-	11	-	-	0	0	-	0	1	5	3	2	2	-	-	2	0
5c. verbal interactions when bathing baby	0	-	-	0	-	0	-	11	-	3	-	0	3	-	-	-	3	2	0	-	-	-	0
5d. verbal interactions when playing with baby	29	22	3	-	0	0	4	45	1	1	17	0	2	12	0	6	6	0	25	9	13	3	0
5e. verbal interactions when dressing baby	0	-	-	-	0	0	-	9	3	-	-	0	-	2	0	2	-	2	2	-	-	-	2
5f. verbal interactions when preparing for sleep	0	-	-	0	0	0	-	6	0	-	4	0	0	2	-	-	-	0	2	2	-	-	0
6. provides and labels sensory experiences	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0	0	3	0	6	3	3	0	0
7. sings to or plays music for baby	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0	3	0	0	4	0	4	0	0
8. uses infant's name in talking to her	35	19	0	2	1	2	11	82	2	5	30	0	5	4	4	23	7	2	42	21	18	3	0
9. responds to baby's crying, quickly	7	1	2	0	1	2	1	17	2	0	3	0	2	0	0	5	4	1	9	2	6	1	0
10. answers baby's call	5	2	0	1	0	0	2	20	0	3	1	0	5	0	0	8	1	2	10	1	11	2	2
Totals	136	62	16	11	2	4	41	356	17	30	84	0	31	42	5	75	55	17	181	50	101	25	5

• - = no occasion to observe

TABLE 9A

LANGUAGE FACILITATION BY AGE

Activity	Totals	Age Group 16 and under 6	Age Group 17 10	Age Group 18 and over 4
1. stimulates infant's vocalization	67	17	35	15
2. imitates child's vocalization	46	17	20	9
3. verbally praises, encourages	53	5	26	22
4. uses raised, loving, reassuring tones	63	15	32	16
5a. verbal interactions when feeding baby	51	6	34	11
5b. verbal interactions when diapering baby	13	0	11	2
5c. verbal interactions when bathing baby	11	0	11	0
5d. verbal interactions when playing with baby	99	29	45	25
5e. verbal interactions when dressing baby	11	0	9	2
5f. verbal interactions when preparing for sleep	8	0	6	2
6. provides and labels sensory experiences	10	0	4	6
7. sings to or plays music for baby	8	0	4	4
8. uses infant's name in talking to her	159	35	82	42
9. responds to baby's crying, quickly	33	7	17	9
10. answers baby's call	41	5	20	16
Totals	673	136	356	181
Averages	33.65	22.67	35.6	45.25

of 22.67 verbal interactions; the mothers that were seventeen years old had an average of 35.6 verbal interactions; and the mothers eighteen years old and older had an average of 45.25 verbal interactions.

In the non-verbal interactions shown in Tables 10 and 10A on pages 53-54, the group sixteen and under performed 52% of the activities; those seventeen years old, 65.7% and those mothers eighteen and over 42.8%.

It would seem that the natural maturation process was a factor especially in the verbal interaction. This might suggest that increasing age causes persons to become more responsible and to seek more guidance.

Some of the activities in both types of interactions occurred more often than others. (See Table 11, page 55). The language facilitative activities that were observed most often were: using the infant's name, verbal interaction when playing with the baby, and stimulating the infant's vocalization. The activities seen least often in this area were singing to or playing music for baby and verbal interaction when diapering baby and preparing baby for sleep.

In the social-emotional and physical development activities, Table 12 on page 56 shows that in all groups the mothers provided physical loving contact and response to the infant's smile more often than the other activities listed. Moreover, they provided kinesthetic stimulation and large muscle play least often.

TABLE 10

SOCIAL-EMOTIONAL AND PHYSICAL DEVELOPMENT ACTIVITIES BY AGE

Activity	Total	Age Group 16 or under						Total	Age Group 17										Total	Age Group 18 or over			
		1	2	3	4	5	6		7	8	9	10	11	12	13	14	15	16		17	18	19	20
1. provides kinesthetic stimulation	2	+	-	-	-	+	-	6	-	-	+	-	-	+	+	+	+	+	1	+	-	-	-
2. provides large muscle play	2	+	-	-	-	-	+	4	+	-	+	-	-	+	-	-	+	-	2	+	+	-	-
3. smiles to bring forth a smile	4	+	+	+	-	-	+	8	+	+	+	-	+	+	-	+	+	+	2	-	+	+	-
4. responds to the infant's smile	4	+	+	+	-	-	+	8	+	+	+	-	+	+	-	+	+	+	2	-	+	+	-
5. laughs with child	3	+	-	+	-	-	+	5	-	+	+	-	+	+	-	-	+	-	3	-	+	+	+
6. holds baby while feeding bottle	3	+	-	+	-	+	-	5	-	-	+	-	-	+	+	+	+	-	0	-	-	-	-
7. provides physical, loving contact	4	+	-	+	-	+	+	10	+	+	+	+	+	+	+	+	+	+	2	-	+	+	-
Total yes	22	7	2	5	0	3	5	46	4	4	7	1	4	7	3	5	7	4	12	2	5	4	1
Percents		52%							65.7%											42.8%			

Code:
+ = yes
- = no

TABLE 10A

SOCIAL-EMOTIONAL AND PHYSICAL DEVELOPMENT ACTIVITIES BY AGE

Activity	Totals	Age Group 16 or under 6	Age Group 17 10	Age Group 18 or over 4
1. provides kinesthetic stimulation	9	2	6	1
2. provides large muscle play	8	2	4	2
3. smiles to bring forth a smile	14	4	8	2
4. responds to the infant's smile	14	4	8	2
5. laughs with child	11	3	5	3
6. holds baby while feeding bottle	8	3	5	0
7. provides physical, loving contact	16	4	10	2
Totals	80	22	46	12

TABLE 11

HIERARCHY OF ACTIVITIES BY GROUP - LOWEST TO HIGHEST

LANGUAGE FACILITATION

Highest to Lowest	Activity	Avg. Number of times	Rank	Group A Activity	Group A Number of times	Group B Activity	Group B Number of times	Group C Activity	Group C Number of times
8	1. stimulates infant's vocalization	3	15	5f	2	6	0	5b	0
5d	2. imitates child's vocalization	7	14	5c	3	7	0	7	0
1	3. verbally praises, encourages	5.33	13	5e	6	5b	2	5a	1
4	4. uses raised, loving, reassuring tones	5	12	6	7	5e	2	5f	2
3	5a. verbal interactions when feeding baby	7.67	11	7	8	5f	4	5c	3
2	5b. verbal interactions when diapering baby	12.67	10	5b	11	2	7	5e	3
10	5c. verbal interactions when bathing baby	11.33	9	9	17	5c	8	6	3
5a	5d. verbal interactions when playing with baby	2.33	8	2	25	10	9	9	6
9	5e. verbal interactions when dressing baby	11.67	7	10	26	9	11	10	6
5c	5f. verbal interactions when preparing for sleep	12.67	6	5a	32	3	13	4	10
5e	6. provides and labels sensory experiences	12	5	3	33	4	13	3	11
6	7. sings to or plays music for baby	13	4	4	33	5a	14	1	13
5b	8. uses infant's name in talking to her	1	3	1	43	5d	19	2	14
5f	9. responds to baby's crying, quickly	8	2	5d	44	1	21	5d	33
7	10. answers baby's call	7.33	1	8	68	8	42	8	47

TABLE 12

HIERARCHY OF ACTIVITIES BY GROUP - LOWEST TO HIGHEST

SOCIAL-EMOTIONAL AND PHYSICAL DEVELOPMENT ACTIVITIES

Activity	Average	Rank	Group A Activity	Group A Number	Group B Activity	Group B Number	Group C Activity	Group C Number
1. provides kinesthetic stimulation	6	7	2	3	2	1	6	1
2. provides large muscle play	6	6	1	4	1	3	1	2
3. smiles to bring forth a smile	3	5	6	4	5	3	5	2
4. responds to the infant's smile	2	4	5	5	6	3	2	3
5. laughs with child	3.33	3	3	6	3	5	3	3
6. holds baby while feeding bottle	5.33	2	4	6	4	5	4	3
7. provides physical, loving contact	1	1	7	7	7	6	7	4

Summary

This study of teenage mothers has pointed out that parent training on a daily basis can have an effect on the number of verbal interactions between the mother and infant. However, it does not seem to affect the activities in the areas of social-emotional and physical development.

The weekly homebased parent-training seemed not to have affected the number of interactions in either the verbal or non-verbal areas.

However, a factor that appeared to have had an effect over and above the training of the mother was her age. The older the teenage mother, the more verbal interactions she had with her child.

Some activities were observed more frequently than others and yet other activities were seldom observed between the teenage mother and infant.

CHAPTER V

FINDINGS, CONCLUSION, AND RECOMMENDATIONS

This study of rural, Black teenage mothers has brought to light many aspects of the whole parenting problem for young people today. It seems that there are many factors in the environment, including the extended family and television, that have had an influence on the young mother. Perhaps parent training can help her cope with negative aspects and give to her infant the response and interaction that will enable him to fulfill his life's potential.

Findings

Most of the young mothers who took part in the study lived in the home with extended family members, usually with their own parents and siblings. (See Table 1, page 35). Often the crowded conditions and constant presence of other family members affected the interaction of mother and child. However, there were incidents in which the infant would suffer from the inadequacies of his teenage mother if there were no other family members with whom to interact.

The young mothers in this study had an average age of 16.85 years (See Table 3, Appendix D, page 69.) Their infants were on the average 12.9 months. Half of the young mothers had more than one child.

The mothers in Group A had received parent training at St. Mary Human Development Center for an average of thirty-one weeks of daily instruction. The mothers in Group B were instructed weekly at home for an average of twelve visits each. Group C received no instruction.

The hypotheses state:

1. Parent training for a teenage mother will increase her verbal and non-verbal interaction with the potentially disadvantaged infant.

2. Young mothers receiving the parent training on a daily basis will develop more measurable interacting behaviors than young mothers receiving training once a week.

3. Young mothers receiving the parent training on a daily or weekly basis will develop more measurable interacting behaviors than young mothers receiving no training.

The number of mother-child language facilitative interactions in Group A averaged 44.75 which was higher than both Groups B and C. This would lead us to believe that hypotheses one and two and part of three hold true in the area of language facilitiation.

However, the average number of language facilitative interactions for Group B, 20.63, is less than the average number for Group C, thirty-eight. Therefore, hypothesis three was not true for those who received weekly training. Other factors, such as age, perhaps had an effect on this element.

In respect to the social-emotional and physical

development activities, hypothesis two proved to be true as the mothers in Group A performed an average of 62.5% of the activities while those in Group B did an average of 46.4% of the activities. However, hypotheses one and three did not prove true with the social-emotional and physical development activities since Group C was observed doing 64.2% of the activities as opposed to Group A doing 62.5% and Group B doing 46.4% of the activities.

Since Group B was found to have had an average age of 16.25 years as compared to Group A's age of 17.37 years and Group C's of seventeen years, a look at the data in terms of age was done. Tables 9 and 9A, pages 50-51, show that as the mothers grew older they had more language facilitative interactions. However, as we see in Tables 10 and 10A, pages 53-54, age did not seem to be a factor in the social-emotional and physical development activities since the oldest group had less interactions than the youngest.

Conclusions

On the basis of the findings of this study, it seems tenable to conclude that parent training on a daily basis did have some positive effect on the interactions of these teenage mothers and infants especially in the area of language facilitation. However, parent training did not seem to be a factor influencing the social-emotional and physical development activities of these teenage mothers.

It can also be concluded that the weekly parent

training did not increase the teen mother's language interactions or social-emotional and physical development interactions. There were, apparently, other factors such as age and environment that have played a part in the ability of these teenage mothers and infants to interact.

Recommendations

The findings and conclusions of this study lead the researcher to recommend that parent training programs for teenage parents be established in every community in which there are teen mothers.

A further recommendation is that child development, family life, and parent training classes be established as a regular part of the curricula in the public, parochial, and private school systems throughout the United States beginning at the middle school level and continuing, with a gradual development in the depth of material offered, through the senior high school.

This study could be replicated using rural, low income, Caucasian teen mothers and again using urban, low income, Black teen mothers, or other rural and urban groups. A study such as this could perhaps establish differences between rural and urban teenage mothers or between Black and Caucasian, or other minorities.

Since over 90% of teenage mothers are keeping their babies, it seems important for social agencies and educational institutions to put an emphasis on the care and development of the child by his mother rather than only

emphasizing the prevention of these births.

Agencies who do home based parent training should be aware of the necessity of thoroughly training these parent instructors prior to and during the program. Also, careful supervision of the quality and quantity of training seems absolutely necessary for the success of such a program.

Summary

The data collected in this study of teenage mothers and their infants has pointed to the fact that parent training can have an effect on the interaction of the mother and infant.

However, there are also many other factors that influence the mother and her relationship with her child. Much needs to be done to prepare young people for parenthood before the fact, as well as after the fact. The quality of life for these babies and the communities in which they will live depends almost completely on the quality of parenting they receive in those first few years of life.

APPENDIX A

INVENTORY OF MOTHER-INFANT INTERACTIONAL BEHAVIORS

Mother's Code____ Mother's Age____ Infant's Age____

	Number of Times
I. Language Facilitation	
1. stimulates infant's vocalization	_____
2. imitates child's vocalizations	_____
3. verbally praises, encourages	_____
4. uses raised, loving, reassuring tones	_____
5. verbal interaction when:	
a. feeding baby	_____
b. diapering baby	_____
c. bathing baby	_____
d. playing with baby	_____
e. dressing baby	_____
f. preparing baby for sleep	_____
6. provides and labels sensory experiences	_____
7. sings to or plays music for baby	_____
8. uses infant's name in talking to her	_____
9. responds to baby's crying, quickly	_____
10. answers baby's call	_____

	Yes or No
II. Social-Emotional and Physical Development Activities	
1. provides kinesthetic stimulation	_____
2. provides large muscle play	_____
3. smiles to bring forth a smile	_____
4. responds to the infant's smile	_____
5. laughs with child	_____
6. holds baby while feeding bottle	_____
7. provides physical loving contact	_____
Total interactions	_____

Observer's Comments: _____

_____

_____

_____ _____ _____

Observor's Signature Date Visit Number

Robertson

APPENDIX B

ORIENTATION OF TEEN MOTHERS TO THE STUDY

What young mothers and babies do together is very important and we would like to learn more about it. The reason is, that it will help us to better understand young mothers in the future. Will you help us do this?

This is what will happen. Within the next month, someone from St. Mary's will make a date with you to come to your house. Since we want to see how you and your baby are together, you should arrange for a time when the baby is usually awake. We want to learn as much as possible, so we would like to visit with you for an hour or more. We would ask you to just go ahead and do whatever you would usually do at that time with the baby; for example, change him, play with her, feed or bathe or whatever. Don't worry about the baby being fussy.

Probably two people will come together because two heads are better than one. They will be noticing different things and just marking it on a paper so they don't forget. And also just so we don't miss anything, we would like to record it on tape. We would just like to share with you an hour or so of your time with your baby.

This study will be absolutely confidential. You will be given a code number and this will be used instead of your name on everything except the card you will fill out which is kept in Sister Ellen's file box. The only

people who will know that you took part in the study will be Sister Ellen and the two people who visit you. We will ask you to sign a permission slip so we can use the information we learn--remember this is so that we can help you and other young mothers with their babies.

We can't talk to you about what we're observing right now because if you knew, it would make the study no good--you know, you would tend to want to look good and do the things you think we want to see. That would be only natural, but we would not really learn anything. When the whole study is over with everyone, probably next June, we will go over your part with you, if you wish.

You will be visited only twice. The second visit will be three months after the first visit; for example, if we visit you first in November, your second visit would be in February. Because we care about how your child is doing, we would like the child development specialist, Mrs. Gardenia White, to come to work with your child during the same week as the visit from the two observers. She will be able to talk to you about how your baby is doing.

We appreciate your cooperation in this study. When it is finished next year, we hope that it will help you and other mothers, too.

APPENDIX C

STUDY OF MOTHER'S & INFANT'S INTERACTIONS

Mother's Name _____ Age _____ Code _____

Mailing Address _____ Location _____

_____ _____

Available Phone _____ (Whose?) _____

Infant's Name _____ Age _____

If pregnant, due date _____

Enrolled in Center _____ Homevisit Only _____

No Program _____

I give permission for use of information _____

Signature

APPENDIX C (cont.)

INDIVIDUAL PARTICIPANT INFORMATION

Code Number_____ Mother's Birthdate_____ or Age_____

1st Child's Birthdate_____

2nd Child's Birthdate_____

Member of: Group A (Center) B (Homevisit) C (Control)

Group A

1. Entered center_____ 2. Left center_____

3. Number of months in center_____

Attendance: 4. Regular_____ 5. Sporadic_____

6. Child development units earned_____

7. Comments_____

_____

Group B

8. First visit_____ 9. Last visit_____

10. Number of visits_____

11. Attends public school_____

12. Comments_____

All

13. Lives alone with baby(ies)_____

14. Lives with extended family_____

15. Lives with husband and children_____

APPENDIX D

TABLE 2

TIME SPENT IN OBSERVATIONS

	Avg. or Total	Group A								Avg. or Total	Group B								Avg. or Total	Group C			
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8		1	2	3	4
Time of observation	13.30	1	1	1.75	1.83	1.5	3	1.5	1.75	10.65	1.25	1.25	1.25	1.75	1.25	1.42	1.25	1.25	7.4	1.5	1.5	1.91	2.5

	Average	Group A	Group B	Group C
Time of observation	Total Hrs. 31.35	13.30	10.65	7.4
	Avg. Hrs. 1.57	1.66	1.33	1.85

APPENDIX D

TABLE 3

AGE OF MOTHER

	Average	Group A								Average	Group B								Average	Group C			
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8		1	2	3	4
Age of Mother	17.37	19	18	17	17	17	18	17	16	16.25	16	15	15	17	17	17	14	19	17	17	17	15	19

	Average	Group A	Group B	Group C
Average age of mother	16.85	17.37	16.25	17

APPENDIX D

TABLE 4

BABIES AGE AND NUMBER OF BABIES

		Total	Group A								Total	Group B								Total	Group C			
			1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8		1	2	3	4
Babies age	1st	169	36	36	17	14	19	36	4	7	101	19	14	9	12	3	20	3	21	55	17	17	10	11
in months	2nd	64.5	24	18	-	.5	1	21	-	-	15.25	.25	-	-	-	-	10	-	5	10.75	.75	-	10	-
	3rd	7	-	7	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0	-	-	-	-
	Total	240.5									116.25									65.75				
	Avg.	17.18									10.57									10.96				

		Average	Group A	Group B	Group C
Babies avg. age in months		13.63	17.18 months	10.57 months	10.96 months
Mothers with:					
	1 child		3	5	2
	2 children		4	3	2
	3 children		1		

APPENDIX D

TABLE 5

UNITS OF DAILY CENTER-BASED PARENT TRAINING

	Avg.	Group A								Avg.	Group B								Avg.	Group C			
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8		1	2	3	4
Units of Daily Parent-Training	.875	1.5	1.5	.25	1.75	.25	1	.5	.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Average	Group A	Group B	Group C
Units of Daily Parent-Training	.875	.875	0	0

APPENDIX D

TABLE 6

NUMBER OF PARENT-TRAINING HOME VISITS

	Avg.	Group A								Avg.	Group B								Avg.	Group C			
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8		1	2	3	4
										Avg.														
Number of Parent-Training Home Visits	0	0	0	0	0	0	0	0	0	12.25	22	22	12	7	10	10	5	10	0	0	0	0	0

	Average	Group A	Group B	Group C
			Avg.	
Number of Parent-Training Home Visits	12.25	0	12.25	0

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